PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 28 FEB 2006
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Applicant's or agent's file reference	FOR FURTHER ACTION	See Form PCT/IPEA/416
P14380PCDK		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/DK2004/000783	11.11.2004	11.11.2003
International Patent Classification (IPC) or national classification and IPC		
A47F5/08		
Applicant		
VKS INVENTA A/S et al.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☒ *sent to the applicant and to the International Bureau)* a total of 7 sheets, as follows:
      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒	Box No. I	Basis of the opinion
☐	Box No. II	Priority
☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
02.09.2005	27.02.2006

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/DK2004/000783

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
   - ☐ international search (under Rules 12.3 and 23.1(b))
   - ☐ publication of the international application (under Rule 12.4)
   - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

4-16	as originally filed
1, 2, 2a, 3, 3a	received on 02.09.2005 with letter of 31.08.2005

Claims, Numbers

1-10	received on 02.09.2005 with letter of 31.08.2005

Drawings, Sheets

1/11-11/11	as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

* *If item 4 applies, some or all of these sheets may be marked "superseded."*

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-10
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-10
Industrial applicability (IA)	Yes:	Claims	1-10
	No:	Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1). Reference is made to the following documents:
D1: US-A-4.509.648 and D2: US-A-3.306.564

2). The subject-matter of claims 1 to 10 is new in the sense of Article 33(2) PCT in respect of the teaching of the document D1.

3). The subject-matter of claims 1 to 10 does not involve an inventive step in the sense of Article 33(3) PCT.

a). The document D2 discloses (the references in parentheses applying to this document) a suspension arrangement including a plate (10) with means for mounting suspension fittings (20) which plate is provided at its front side with grooves (15) that along a part of their extension communicate with holes (14) that open on the back side, as the suspension fittings are mounted extending through a hole (14) for supporting with a first support member (21) on the back side and with a second support member (22) supporting against the bottom of the groove (15) and which plate (10) has a front side from which the suspension fittings (23) are projecting. The document is however silent about mounting means (50) on the back side of the plate (10) which interact with coupling means on a support.
The problem to be solved by the present invention may therefore be regarded as the mounting of the plate on a wall.
The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons.
As the plate is a wallboard it would be obvious for a skilled person to provided the plate with mounting means (eg. screws) which interacts with coupling means (eg. holes) on a support (wall) and thus arrive at the subject matter of claim 1 without being inventive.

b). The same reasoning applies, mutatis mutandis, to the subject-matter of the independent claim 8, which therefore is also considered not inventive.

c). The remaining claims are directed to further embodiments of the independent claims. As they are dependent claims they do not therefore involve an inventive step.

SUSPENSION ARRANGEMENT

The present invention concerns a suspension arrangement including a plate with means for mounting suspension fittings.

The invention furthermore concerns a method for making a suspension arrangement including a plate with means for mounting suspension.

A large number of suspension arrangements are known which primarily are used in shops for displaying products. These suspension systems are based on modular dimensions determined from the spacing between supports that usually are formed as vertical members which are fastened to a wall. On these members suspension fittings in the shape of support holders are fastened for supporting shelves that are used for displaying articles/products. Alternatively, suspension fittings in the form of hangers may be provided between two juxtaposed members for supporting hooks or other suspension fittings on which the products are placed.

Some articles, like audio equipment, also necessitate supply of power in order that they may operate. Individual lighting may also be required for providing correct presentation of the goods.

If electric wiring is to be provided, a unsightly mess of wires will often appear, influencing the aesthetic presentation of the articles in a negative way. It is therefore desirable to hide the wires as much as possible. Until now, this has widely been effected by hiding wiring in wire ducts that are fastened to the members and the underside of the shelves. However, this has been associated with drawbacks, among others because the wires would still be visible at the passage around edges on shelves, and because replacing just one single article requires a dismounting of wire ducts in order to release the wires.

The articles may have different shape and size that put different demands on shelves or suspension hooks.

Today, there are great demands on the arranging of articles in correct groups with corresponding articles, e.g. pants together with shirts, socks and ties. Each of these products makes demands to suspension fittings, as some are to be displayed on shelves and others on hooks/pegs. It is often difficult to utilise an available wall area efficiently, due to the restrictions of the module determined by the distance between the members of the support. In order to get optimal utilisation of the wall area, there is need for a small spacing between the support members. This will, however, add to the costs of producing the suspension arrangement.

US 3,306,564 describes a suspension arrangement including a plate with means for mounting suspension fittings. The plate is provided with grooves, and in the bottom of the grooves apertures are provided. It is possible to attach suspension fittings through the holes in that a hook portion is passed through the aperture and is in engagement with the rear surface whereas a vertical part of the suspension fitting is arranged in the grooves in the front side of the plate. Even though it is possible to arrange suspension fittings with a mutual distance determined by the grooves/apertures, there is no indication how to solve the problem with electric wiring. Moreover, the only proposal for the background which contributes to present the articles is limited to the pattern of the grooves and apertures in the plate.

In prior art suspension arrangements, backgrounds are often a part of the display and contribute to the presentation of the articles. Posters or pictures are therefore placed on the walls between the members in order to enhance correct presentation of the articles. Mounting of posters is thus determined by the module too which is defined by the spacing between juxtaposed support members.

For several years, there has thus existed a desire for efficient utilisation of space and an aesthetically correct presentation of articles in a suspension arrangement where the spacing of the support members does not form a restriction, and where there is possibility of presenting articles at individually determined locations and with

individually determined disposition of hooks, shelves or other members. There is also a desire for the suspension arrangement to be used for power consuming articles without the well-known mess of electric wires.

According to the present invention, this is achieved with a suspension arrangement of the type mentioned in the introduction, which is peculiar in that the plate is provided at its front side with grooves that along a part of their extension communicate with holes that open on the back side, as the suspension fittings are mounted extending through a hole for supporting with a first support member on the back side and with a second support member supporting against the bottom of the groove side, and which plate has a front side from which the suspension fittings are projecting, wherein the plate is made with a back side on which mounting means of the plate are disposed, and wherein the mounting means of the plate is made to interact with coupling means on a support.

The method according to the invention is peculiar in that the plate is provided at its front side with grooves that along a part of their extension communicate with holes that open on the back side, as the suspension fittings are mounted extending through a hole for supporting with a first support member on the back side and with a second support member supporting against the bottom of the groove side and which plate has a front side from which the suspension fittings are projecting, wherein the plate is made with a back side on which mounting means of the plate are disposed, and wherein the mounting means of the plate is made to interact with coupling means on a support.

In the plate it is possible to dispose the grooves with a mutual spacing which is substantially less than the spacing between traditional support members on a wall. Also, it is possible with very little spacing between successive holes in a groove. It is thus possible to operate with rather small modules and thereby achieve very flexible utilisation of the display area. Thereby it becomes possible to dispose products in correct grouping even if they require different support/suspension. For example, pants, shirts, socks and ties may be hanged on hangers/hooks or laid on shelves. Thus it is easy to get an efficient utilisation of an available wall area, as one is not bound by the module determined by the distance between the members of the support or by a modular measure for the height between shelves.

By making a display wall, the plate will preferably be mounted together with juxtaposed identical plates for forming an unbroken wall face which at the front side only display grooves that preferably will be vertically oriented. Alternatively, the grooves may run obliquely or even horizontally if desired. A wall will thus appear for the viewer, from which wall the suspension fittings are projecting. No support members, shelf brackets and back wall appear as is the case with the prior art display walls.

It is possible to enhance the viewer's impression of an unbroken wall by providing an unbroken pattern or picture on the surface of the plates. According to a further embodiment of the invention, the suspension arrangement is thus peculiar in that the

front side of the plate is provided with an image formed at the surface of the front side and at the bottom face of the grooves.

Claims

1. Suspension arrangement including a plate with means for mounting suspension fittings which plate is provided at its front side with grooves that along a part of their extension communicate with holes that open on the back side, as the suspension fittings are mounted extending through a hole for supporting with a first support member on the back side and with a second support member supporting against the bottom of the groove side and which plate has a front side from which the suspension fittings are projecting, wherein the plate has a back side on which mounting means of the plate are disposed, and wherein the mounting means of the plate interact with coupling means on a support.

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2. Suspension arrangement according to claim 1, **characterised in that** the holes are formed as drillings extending from the back side and partly through the plate to a position approximately at the bottom of the grooves.

3. Suspension arrangement according to claim 1 or 2, **characterised in that** the plate is formed as a laminated sheet with the grooves formed between juxtaposed elongated front side plates.

4. Suspension arrangement according to any preceding claim, **characterised in that** the grooves have a width between 3 and 8 mm, preferably between 4 and 6 mm, that the grooves have a depth between 3 and 8 mm, preferably between 4 and 6 mm, and that the spacing between juxtaposed grooves is between 60 and 200 mm, preferably between 80 and 100 mm.

5. Suspension arrangement according to any preceding claim, **characterised in that** the front side of the plate is provided with an image formed at the surface of the front side and at the bottom face of the grooves.

6. Suspension arrangement according to any preceding claim, **characterised in that** the coupling means of the support and/or plate include interacting hook-shaped projections.

7. Suspension arrangement according to claim 6, **characterised in that** the coupling means of the plate are formed on angular reinforcement sections fastened over the length of the plate.

8. Method for making a suspension arrangement including a plate with means for mounting suspension fittings which plate is provided at its front side with grooves that along a part of their extension communicate with holes that open on the back side, as the suspension fittings are mounted extending through a hole for supporting with a first support member on the back side and with a second support member supporting against the bottom of the groove side and which plate has a front side from which the suspension fittings are projecting, wherein the plate is made with a back side on which mounting means of the plate are disposed, and wherein the mounting means of the plate is made to interact with coupling means on a support.

9. Method according to claim 8, **characterised in that** holes are drilled in the plate, the holes extending from the back side and partly through the plate to a position approximately at the bottom of the grooves.

10. Method according to claim 8 or 9, **characterised in that** the front side of the plate is provided with an image formed at the surface of the front side and at the bottom face of the grooves, as the image is preferably produced by an inkjet printer.